

In the Drawings

A "Replacement Sheet" is attached which includes a clean version of amended Figure 10. The attached sheet replaces the original sheet including Figure 10.

Figure 10 was amended to insert reference number 216b.

REMARKS

Applicants respectfully request reconsideration. Claims 1-19 were previously pending in this application. Claims 9-12, 14, and 16 have been amended. As a result, claims 1-4, 6-12, 14-19 are pending for examination with claims 1, 9, and 17 being independent claims. No new matter has been added.

Allowable Subject Matter

Claim 5 and 13 have been indicated to be allowable.

Objections to the Drawings

The Examiner has objected to the drawings for showing a reference character 211 not mentioned in the description. Applicants draw the Examiner's attention to paragraph [0037]. That paragraph mentions stiffener 111.

Objections to the Specification

The Examiner has objected to the specification for not describing reference number 113 as shown in Figs. 2 and 7. Applicants draw the Examiner's attention to paragraph [0037] in the application as published. Reference number 113 is described in that paragraph to be a feature that engages slots in stiffener 110.

The Examiner has also objected to the specification for using reference number 216b, which is not shown in the figures. Applicants have submitted a revised figure 10 that includes a reference number 216b pointing to the lower surface as described in the specification.

The Examiner has also objected to the specification for identifying openings by reference number 216. As described elsewhere in the paragraph, the "openings" are shown in the drawings

by reference number 211. Applicants have submitted an amended paragraph [0051] correcting this minor error.

Rejections Under 35 U.S.C. §102

The Examiner rejected claims 1-4, 9-12 and 17-19 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,331,514 to Kuroda. Applicants respectfully disagree.

Kuroda describes an integrated circuit package. It does not describe a printed circuit board having “a plurality of stacked dielectric layers” as recited in claims 1, 9 and 17.

Furthermore, the rejection is based on an unreasonable interpretation of the claim and the reference. Claim 1 requires a plurality of rows of conductive vias. The claim further recites two additional limitations. No embodiment in the reference may be reasonably interpreted to show or suggest both limitations simultaneously. Claim 1 requires that “there are at least twice as many ground conductor connecting conductive vias as signal conductor connecting conductive vias” for each of the plurality of rows of the conductive vias. Furthermore, claim 1 recites that for each of the plurality of rows of conductive vias, “the conductive vias are positioned relative to one another so that for each signal conductor connecting conductive via, there are ground conductor connecting conductive vias adjacent either side of the signal conductor connecting conductive via.”

In contrast, Figure 1 of Kuroda shows rows with the same number of signal and ground conductors. None of the rows shown in Figure 1 meets the claim limitation requiring “at least twice as many ground conductor connecting conductive vias.”

Figure 5 of Kuroda shows an alternative pattern. In the pattern of Figure 5, two types of rows are shown. One type of row includes only ground conductor connecting conductive vias. Those rows do not meet the claim limitation requiring each signal conductor connecting conductive via to have ground conductor connecting conductive vias adjacent either side. The second type of row pictured in Figure 5 of Kuroda includes an alternating pattern of signal and ground conductors. Those rows do not meet the claim requirement of “at least twice as many ground conductor connecting conductive vias as signal conductor connecting conductive vias.”

Because no set of rows pictured in any embodiment of Kuroda meets all limitations of the claim, the reference does not anticipate the claim.

The Examiner formulates a rejection of claim 1 by picking and choosing conductive vias in different rows to form a square and then declaring that rows of such squares meet the limitations of the claim. Such a rejection is improper.

The claim recites “a plurality of conductive vias aligned in a plurality of rows.” Rows of squares do not meet the claim limitation. The rejection is premised on an unreasonable interpretation of the term “row” that is inconsistent with the manner in which the term is used in the application and in the reference. The rejection also is premised on an unreasonable interpretation of the term “via.” Although the Examiner is entitled to give claim terms a broad meaning, that meaning must, nonetheless, be reasonable. Declaring a collection of conductors to be the same as a via is not a reasonable interpretation of the term “via.” Declaring a multidimensional pattern to be a row is not a reasonable interpretation of the term “row.”

Therefore, Applicants respectfully request that the rejection be withdrawn.

As to claim 9, the claim has been amended to further highlight differences between the claim and the reference. Specifically, the mating interface recited in the claim is configured to allow an electrical connector having a specific arrangement of signal and ground conductors to be connected to the printed circuit board. The claim recites “each ground conductor having at least one pair of contact tails positioned along a row.” Furthermore, the claim recites “each signal conductor contact tail being positioned between ground conductor contact tails of a pair.” The claim then goes on to recite conductive pads aligned with these contact tails.

In contrast, Kuroda relates to an integrated circuit package and does not disclose the recited electrical connector at all. Furthermore, there is no reasonable interpretation of Kuroda that meets these claim limitations. No row in Kuroda is formed with a signal conductor between a pair of conducting structures from the same ground conductor in an electrical connector.

As a further distinguishing point, Kuroda shows no repeating ground-signal-ground pattern along a row as recited in the claim. Even with the Examiner’s interpretation that the squares of conducting structures are one conducting structure, every square is identical. Therefore, every elements in each row is identical and there is no repeating pattern of ground-signal-ground that can satisfy the claim limitation.

For all of the foregoing reasons, the reference does not anticipate claim 9.

As to claim 17, the claim recites “interleaved first and second rows.” Each of the plurality of first and second rows is recited to have a repeating pattern of ground-signal-ground. In contrast, Kuroda shows a repeating ground-signal pattern along each row. Even if the Examiner’s interpretation of the reference as showing a repeating pattern of squares is accepted, every square is identical. There is no “repeating pattern along the row” as recited in the claim.

Further, the claim requires that the rows be offset, specifically:

the positions of the signal conductor connecting conductive vias in the first rows relative to the positions of the signal conductor connecting conductive vias in the second rows are *offset* so that each signal conductor connecting conductive via in the first and second rows has a ground conductor connecting conductive via adjacent at least three sides

With the Examiner’s interpretation of squares as vias, every row is identical. There is no first and second rows that are offset as recited in the claim. Thus, the reference can not be said to anticipate the claim and the rejection of claim 17 should be withdrawn.

The remaining claims depend from one of claims 1, 9 or 17 and should be allowed for the same reasons as the independent claim. Furthermore, the dependent claims provide further distinguishing features. Therefore, the rejections of these claims should be withdrawn.

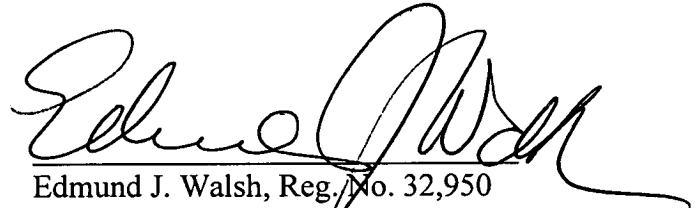
CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
Jason J. Payne et al., Applicant(s)

By:


Edmund J. Walsh, Reg. No. 32,950
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
Telephone: (617) 646-8000

Docket No.: T0529.70050US00
Date: October 14, 2005
x10/14/05x